Abstract

The present invention is directed to a]

ABSTRACT OF THE DISCLOSURE

A sensor for detecting changes in the distance between a first and a second location, having at least one substantially helically coiled optical fiber, [which is able to]can be mechanically connected to at least one of the locations, and having a light transmitter and a detecting device for optical signals, the detecting device [being able to]can generate an output signal, which is dependent upon the polarization state of the optical signal transmitted via the optical fiber. [The present invention is also directed to a]A method for detecting the changes in distance between a first and a second location[, having] includes the following[features:]: mechanically coupling at least one of the locations[is mechanically coupled] to a substantially helically coiled optical fiber; launching an optical signal having a known polarization state[is launched] into the optical fiber; following transmission over the connecting line,[this][is detected in such a way] detecting this so that information is obtained with respect to its polarization state;[from this information,] and determining the change in distance [is determined]from this information.